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BUREAU OF BIOLOGICAL SURVEY

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FIELD DIARY

Mr. *Vernon Bailey*
Biological Survey
(Official title.)

Period, *Jan 4, 1924, Feb. 14, 1924,*

Louisiana Trips.
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Jan. 4, 1926.

Left Washington D.C.
at 10:35 P.M. on Southern
Ry. for New Orleans to
study muskrat conditions
during winter.

A warm day in Washington
but rained most of night and
next day down through
North and South Carolina.

Jan. 5. A rainy day
down through the Carolinas
but warm and foggy.
Walter Fisher and his wife
on train and I read the
trial of ~~death~~ of Serrano
and slept. Had a very
pleasant day.

1924.
Jan. 6 Arrived at
New Orleans 7:20 AM
and finding Stanley Arthur
had gone over to Orange,
Texas Took his train
on the 11:05 AM train
and arrived at Orange
at 7:20 PM. Orange, Tex.
Went to the Holland
Hotel and slept well after
getting out my old wash
clothes.

A pleasant day
with warm sunshine
across southern Tex.
Leaves all off the deciduous
trees and only the live oaks
and *Magirolia grandiflora*
and cypresses showing green.
The cypresses especially
bare and bald except for their

loads of gray Spanish
woss! The temperature
has recently been down to
18 above zero with hard ice
on the ponds so the climate
has been not so different
from that at Washington.
In one yard at Crowley or
Lake Charles a lot of grasses
were blooming, grass & winter
grains are generally green
but there is little gardening or
farming activity. A few lettuce
beds looked promising.

Jan. 7 At Orange I saw
Mr. Ludy and his bookkeeper
who sent me down to
camp in a speed boat &
while Arthur & Soika were

The Orange Canyon Land Co. Tracts
of 163125 acres - practically
all waste land - 30 by 14 mi.
from the Sabins to 7 mi. East of
Calcasieu R. - Includes the
Joyce tract of 25592 acres
along the Gulf east of Johnson
Bayou - to Mud Lake & Calcasieu
Lakes. 8 x 4 mi.

North of this is an area of 137,535
acres purchased by Stark from the
Texas Oil Co.

Three years ago the
Rosenthal Bros. Co. secured a
ten year lease ^{of the trapping rights in the land} at very small cost
from the Texas Co. but with
clauses that if this lease interfered
with the sale of the land it was
to be set aside.

The courts upheld this lease
but the Texas oil co will pay

to settle as they guaranteed
clear title of the tract.

In 1924-25 the caught
193200 rats on the
Joyce and Texas tracts.
Also 2993 musk.
Raccoon 1742 -
Otter 82.
Opossum 167
Skunk 15.

As many rats were probably
caught by the other co.
who also trapped under the
old lease, making about
350000 rats taken on this
area by both companies.

The Orange Canyon
Co. has during 1925 cut
about 21 miles of large canals
4 feet deep by 18 wide, to bring

in fresh water from the
Zodiac and access to all
the trapping ground.

These canals are fed from the
Sabine River near Orange and do
not connect with the gulf or any
salt water sources so the washes
can be permanently supplied with
fresh water.

At Bowler's Camp 8 miles
north of Camp No. 2 on the Gulf
Coast (Seelyville) where
Canals run east and west
and south we staid two nights
and trapped for muskrats.

The regular trapping had been
stopped to save all the rats for
next years crop and Homer
Bowen and his son Bobby Bowen
and themselves and families are
keeping hunters instead of trapping
rats as they planned to do.

They are well fixed with a
house boat and other boats while
the company has a big house
boat that we used with double
deck living room, kitchen,
bath room, dined electric lights
and all modern conveniences.

Musk rats are fairly numerous around the camp and now with a foot of water over the marsh they are leading a comfortable and normal life. They did not increase much last summer because of the dry weather and abnormal conditions but now are mostly full grown, large, fat and well fed.

They are feeding on the tender bases and roots and bulbs of several species of Scirpus, mainly americanus, sodanensis and olneyi, Cat tails, Salt rush (big saw bladed sedge) "wire grass" (one of the pale plumes) Bull rushes (Scirpus lacustris), and a floating green tender succulent weed that looks like Ceratophyllum but is more nearly like a Suaeda in texture - Bacopa monnieri, water hyacinth.

The cage trap proved too weak in the openings & hold the rats but there was so trouble in catching them in it, set on feed beds where they swam over the trigger at night.

A few specimens were collected but not many. About 170 skins confiscated from illegal trappers showed only a few immatures & no kits. The breeding season is well past but should begin again with warm weather.

One of the muskrats cooked was excellent meat, tender & rich and well flavored, better in fact than the several species of ducks we had with it.

Jan. 9 In P.M. went
South 8 miles to end of
canal at Camp No. 2,
on the gulf and set out
a lot of small traps and
put out poisoned wheat for
mice along the sandy beach.

Saw millions of geese and
ducks. The geese are mainly
snow geese, with some blue
geese, "sprinkled bellies", honkers,
and hutchinsons.

7 species of geese and 27
species of ducks were counted
up as more or less common
here. This is considered the
greatest goose and duck
country of the state.

We examined the stomachs
of the blue and snow geese killed
and found them full of the tubers

from the roots of Scirpus
americanus, the hard woody
tubers chewed into small pieces
by the powerful jaws and then
ground to powder by the enormous
muscular gizzard with its two
opposite pads of cartilage, acting
as millstones.

Cooked they were delicious
fat and tender and well flavored.
The gizzards were especially
delicious but some are kept out
the livers so we did not get any.

Louisiana: Cameron Co. Marshes.

Brown Pelican, 2 on beach, Jan. 4 & 11, 26.

Herring gulls, a few. Ring-billed, a few.
Ducks, 27 species at all seasons.

Pintails, commonest
Shovellers, next in numbers
Blue-winged teal, common
Green-winged teal, common
Mallards " "
Blade ducks a few -
Gadwall " "
Scaups, lesser " "
Ruddy " "

Snow geese ^{intermediata} in millions near the shore,
Blue geese, abundant,
Canada geese, common.
Hutchinson geese, said to be common.

Great Blue heron, common.
Bittern " "

Coots, thousands in marshes.
Rails, King & Clapper
Sanderlings - common
Black-bellied plover " "
Yellow legs " "
Willits " "
Blue-winged Stilt one collected by Hopkinson
Baldpate, nest & old bird sitting,
Marsh hawk obs.
Red tail a few
Owl hawk 1
Sparrow hawk abundant;
~~Shrike~~ +
Turkey buzzard, common.
Black vulture " "

Shrike 1
Boat-tail grackle common.
Red-wings " "

Oroscoptes , 1
 Anthus abu-
 Molospiza com.
 Ammodramus "
 Myrtle Warblers, abu.
 Anturus rubescens "
 Sturnella magna? , com.
 White bellied swallows, "
 Oroscoptes montanus, 1 killed, Jan. 6
 Robin as seen, " 10
 Mourning dove, 1 Jan. 11
 Killdeer com " " Montauk
 Jan. 11

Jack Snipe, came along Black Bayou
Bubo, 2 + 1 egg " "
Redtail, on cypress Black Bayou
Gallinule, " " " "
Louisiana heron, came on Intracoastal Canal

The Gulf beach is interesting in its drift. Coconut shells, palm trunks, banpoor, big cactus stems, trunks of strange woods, humps of tufa, a great variety of skulls and bones and boxes and bottles.

The shell of crustacean fauna are rich & varied. Insect life, beetles, spiders, tarantulas, "mealy bugs", & small snakes and a skink were found under boards & logs. The *Phoxinus* beetles made pupps of snakes when disturbed.

Skunks are numerous on the sand ridges back of the beach and hunt for bottles and probably crabs at night. One fat little male skunk dug out and photographed had only bile in his stomach but

many droppings were made up of
mostly shells of black beetles.

Coon tracks and signs are
common all along the canals
and the beaches.

Marsh rabbit pellets are common
and big and the rabbits are said
to be very large and rather gray,
probably Sylvilagus americanus.

We caught 3 rice rats in
the grass and under logs along
the beach ridge and Sivola
got a live one from a burrow
in the sand where it had a
nest.

Sivola got the Sigmodon
alive in the nest in a burrow
on the beach ridge.

House mice are abundant
and were the only mice caught.

Rats are common and Uromys

Returned to Bowen^m Camp
in afternoon but did not set
out any more traps.

A clear chilly day but not
very cold.

Jan. 11. Returned to
Orange on the big slow boat,
leaving camp at 8 AM and
arriving at 2 PM. but it
was a very interesting trip
up the canals to the ~~intermediate~~
Canal and then into the Sabine
River to Orange. and Bladen Bayou
about 30 miles through solid
marsh country and good woodlot
pastures all the way.

Along the Bayou Bladen are
some good groves of water lilies
cypress. The bayou is very
winding and picturesque

with lots of nests in the
cypresses. Of two bald eagle
nests one was occupied and
the old bird said to be sitting
on eggs while we saw only
one with white head sitting on
a branch near the nest.

In an old hawk's nest we
found a great horned owl
sitting on one egg.

In summer there are both black-
crowned and yellow crowned herons
nesting here, some Louisiana
herons, little blue, snowy, egrets
and roseate spoonbills. This is
the colony I was going to visit
the day I started for Bonclust
July with an infected finger.

A still clear & very pleasant
day, a little frost in the morning
but warmed off pleasantly later.

Otter, one seen a few days ago
in Bayou Black

Jan. 12.

Left Orange 11 AM for
East Cove on Calcasieu Lake
arriving at 1 PM., about
50 miles south of Lake Charles.
Came through the interoceanic canal
to Calcasieu Lake and then down
the lake on the east side
to near the coast.

Mexican Cormorants com. in Lake
Short eared owl in marsh, pellets.

ott

Muskrat foods
Cameron Parish, La. Jan 7-14.

Scirpus americanus - 3 ^{woods.} ~~cornucop.~~
Evergreen, much eaten.

Scirpus olneyi 9 heads
Evergreen, much eaten

Scirpus robustus - leafy stems
Evergreen stems, much eaten, also leaves
Eleocharis quadrangulatus 4 ^{spike much} ~~squar.~~ small bulblets
~~Scirpus~~ said to be eaten by muskrats & ducks.

Scirpus validus - Great bulblets
Evergreen, much eaten.

Cladium effusum - Saw grass.
Evergreen, much eaten, very abundant.

Zypha angustifolia - Cattail
Evergreen in places, much eaten.

Spartina patens pumila - Wire Grass
Evergreen & much eaten

Spartina glabra - Quill cane, hog cane
not evergreen, not much eaten now.

11
Juncus roemerianus, Wildcat grass.
Paille Chat tige
evergreen, not much eaten now.

Bacopa monniera (water hyssop)
(water purslane)
evergreen, floating, much eaten by
both muskrats and ducks
Alligator grass & votins.

Sagittaria lamifolia? big, spatulate leaf
Not common, evergreen, our plant all eaten.

Sagittaria arrow leaf.
A few, eaten by muskrats.


8/14 ¹⁹²⁴⁺⁵ 200 = 15 000 rats
70 to 804 each

5 men trapping Nov. 20, Feb. 5,
on 480 acres, Lima River Ponds
was Avoca Island.

In April Arthur found
a fair stand of rats still there.
This was approximately 30 rats
to an acre.

In 1924, there are so few
rats they stopped trapping -

Jan. 13. To Tappes Camp off
Bayou.

Thirteen rats examined, one half grown
kit. 8 ♀♀, 5 males, adults usually
so. One large ♀ had two small embryos
, no others pregnant.

In five *Scirpus americanus*.
Always robust feed. Stomachs full,
fat or in good condition.

15 houses examined, 13 traps,
2 on boudes.

23 houses counted from an open
on S. side of Bayou in clear stand of
3 square.

One large house photographed, 4 feet
high above water and 7 feet wide at base,
made of grass and sticks. A good trail
to top of house.

Back at camp they brought
in 8 rats, 5 females and 3 males,
all but one adults but no sign
of embryos. I saved two of
the old males, one weighed 3 lbs.
and measured 572, 234, 80, 20.

The other weighed $3\frac{1}{4}$ lbs.
and ~~weighed~~ measured 585,
238, 80, 18.

They are very dark with
no yellow and long guard hairs
as all the fully matured males
have. I can see no difference
between these and the big, dark,
valuable Texas rats and suspect
these were old males that had
migrated west.

We had muskrats for supper,
3 females, carefully skinned and
dressed and rolled in corn meal
with a little salt & pepper in it
and fried in hot lard. All who

Ate them said they were better
than squirrel or rabbit and tho
I had a big praying pan full we
ate it all and wanted more.

Next the liver is especially
good and very large, but the
kidneys are not very good
and the hearts are thin walled,
and soft, the lungs were full
of blood.

Next time I shall fry them
in only a little grease and in
a covered pan.

Next morning a good mass of
cat fish were delicious, but smelled
whilst cooking of muskrat.

Said to be not fit to eat when feeding
on muskrat carcasses thrown in
bayou. An kept in fish box
a week or two without food & got
rid of week.

Jan. 15

Left Orange, Tex., at 10:38
am. and reached Morgan City,
La., about 3 P.M.

A very warm day and the
green coming up again in
fields. A few roses in blossom
in door yards, spinaches
and lettuce and cabbage and
beets growing in vegetable
and market gardens.

Lots of evergreen trees, live
oak, magnolia, camphor,
japan plum, chandler,
box, two species of Myrica,
two of Rhoicarpus, Swietenia
three or four species of palms,
yuccas, pines, and many
sedges and grasses give a
subtropical greenness to the
vegetation, but the greater
part of the forest and swamps

are bare and brown.

The very fragrant Japan plum is in blossom now and ripens in March. The young bayanna trees are mostly killed by the recent freeze, 22° above zero about 2 weeks ago.

There are practically no mosquitos now out in the marshes.

Alligators are mostly in this hole for the winter but occasionally one comes out on a warm day. Sam Monte saw a 4 foot one a few days ago in the marsh and now he reported a water moccasin seen about a week ago.

There are rows of marsh rabbits hung up in market, some very large and heavy.

Jan. 16. Down to Muskrat Camp
in P.M. after getting framework
of a new muskrat trap done.
Found the Evidhas comfortably
located with 7 muskrats, 10 ^{partridges}
one coon, 3 *Equidans* and 1 *Geomys*
for a family, not counting a lot of
young alligators and some chickens.

Set a few traps and some had a
finishing *Nestora* in a cage.
One of the boys had recently brought
in two *Onychomys leucogaster*
merriami but both died.

Oh, yes. They have a swamp rabbit
in a pen out doors.

Worked on trap but have
to wait for wire for springs.

Sigmodon hispidus Tal, Jan. 19, 1926
No. 48. Ewhlas,
285; 105; 34; ear 26, wt. 202 grams.

Jan. 17, Got spring wire
from home but too late in the
day to make springs.

Jan. 18, made trap springs
and finished trap - set traps for
cottontails etc -

Jan. 19, Set trap for Muskrat
and left Johnnie Lacost to
take care of it as it is in
his trap line.

Got some *Sigmodon*, *Microtus*,
Peromyscus + house mice in small
traps and explored an old pig
silo out in an old field.

Found some big pellets of a barred
Owl in it and one of a screech
owl. The screech owl was there
but the barred owl was gone.

Also two *Neotoma* nests and a
Neotoma in one of them.

The barred Owl pellets were mostly

Sigmodon fur and bones but
contained also mice bones.

Other owl pellets collected
by the Swihlas down at the
lookout tower on the Bayou Chene
were partly muskrat and partly
sigmodon and mice bones & fur.
All sent in.

Jan. 20, Fixed up my old
muskrat trap

Jan. 21, Set the other trap so
I now have out two.

The weather has been very warm
and violets blossoming in the
yard but it is poor weather
for muskrat trapping. Johnny
La Costa got only 2 today in
150 traps.

June 22, Wind swinging from south to west & north and the temperature dropped to near freezing before dark. This will make the muskrats hustle around and we may get one tomorrow. So windy today the trappers did not go to their traps.

Made a good muskrat pen.

Went on long tramp in the woods back along the old bayou where palmettos and cypresses are abundant. Saw lots of deer tracks and signs and some porcupine and coon tracks and woodrat nests. Photographed one Sabal palmetto but the sun would not shine enough for pictures.

Muskrat Camp, Morgan City, Jan. 16-26.

Birds

Herring Gulls, a few at Morgan City,
Forsters tern, common along bayous.
Killdeer common.
Jacksnipe "

Bobwhite a few.
Mourning doves abundant
Turkey buzzards "
Black Vulture "
Barred Owl 1 at Silo
Screech Owl 1 " "
Red tail hawk, com
Marsh hawk "
Sparrow hawk "
Fish hawk 1 seen Jan. 23,

Kingfisher common
Phoebe "

Jan. 23 Cold and windy and
cloudy, seen much in morning.
Nothing in traps & El Costa
got only one cat.

Went to town in afternoon
and got mail. Svihla got his
Ford fixed up with starter and
lights so it is in good shape.
No sunshine all day for
photographs.

Mrs. Svihla caught 2 live
Neotomas in traps and four
live harvest mice in buckets
and two live Sigmodon.

Thicker common
 Shrike "
 Crow Common
 Boat-tail Grackle "

Redwings bluffs. Abn.

Meadowlark common.

Cardinal "

Song Sparrow "

Swamp " ? a few.

Ammodramus "

Carolina wren A few.

Marsh wren "

Cedar bird com.

Myrtle Warbler com.

Golden Crown King 2

Mocking bird a few

Robins common.

Pipits com.

White bellied swallows "

Jan. 24, Rained all night & all day but not so cold as yesterday.

Made Cages of sawed wood to keep warm.

Jan 25 - Warm day in night and cleared by noon!

Reset traps.

Caught mice & rats in our traps out in pasture.

Found Sigmodon, Onychomys, Reithrodontomys aurantius, Sig Peromyscus, and Uta murex.

under big thistles in the pasture and caught all of them ^{in four pounds.} alive.

Mrs. Swihla also caught one more Neotoma in a live trap, making 5 alive in the house now.

One large fat old male Sigmodon weighed 6.05.

Muskrat Camp below Morgan City,
Mammals. Jan. 16-25

Dus	Com -
Neotoma	"
Peromyscus	"
Sigmodon	"
Oryzomys	"
Reithrodontomys	"
Rattus norvegicus	"
Mus musculus	"
Fiber z. rivicivius	"
Sylvilagus aquaticus	"
Passum	"
Raccoon	"
Mink	a few
Other	rare.

Jan. 24. A frosty morning
but clear and pleasant day.
Went down to traps but no rats
had been near the live traps.

Started for New Orleans
with Ford Car and got stuck
in mud several times en-way
to Morgan City. There but
good roads rest of way.

Left Morgan City 1:25 PM
I reached New Orleans 6:25.

Wonderful mass of woods
and swamps, especially extensive
— cypresses without leaves.

Saw many orange trees full
of golden fruit. People
making garden all along way.

Jan. 27 Got spring steel
wire at Van Hous and other
material for five traps to catch
Muskrats. Went to the Consignment
wharf and worked in their shop
with Neal Senae and made up
part of four traps.

A warm day and very
pleasant.

The Svichles went around
town and shopping to be ready
to go back tomorrow.

Jan. 28. Started down the river with the Conservation boat of crew, Mr. Arthur and Col. Carlisle. The Fiscal is a fine large comfortable boat with sleeping quarters for 6 and a good captain, cook, crew. Ran down about 100 miles to Johnson Bayou almost to the mouth of the river and stopped at the club house on the public shooting grounds.

Had two of my traps ready to set but they were carried off on the boat which made the side trip and did not get back till after dark.

Sorry to lose one night of trapping but did some exploring. Stopped at several places along the river and found little towns and settlements along

Much of the way. Good automobile roads down both sides of river for a long way. Lots of farms and orange groves but some trees full of cactus.

No natural forests except endless lines of willows along the shores of the river and bays. A few live oaks and other trees in dooryards seem to have been planted. Great marshes back of the dry land.

Lots of canals and channels.

Many evidences of a very mild climate and little frost. It went down to about 29 in the very cold Dec. freeze. Cat tails are tall and green and most of the marsh plants are green, including the Phragmites. Great thistles are numerous and big.

Alternanthera philoxeroides

Alligator grass is a floating, ^{creeping} succulent plant, which grows in a solid mass and extends by long vine like runners. It often forms rafts or mats or covers the extent over shallow water and kills out all grasses, sedges and other plants.

Jan. 29, Finished my four live muskrat traps and set them all near the Club house.

Explored some of the muskrat marshes a mile or two below the Club house. Found conditions very different from farther west. Absence of Alligator grass which kills out everything and spoils the marsh for muskrats. Still there is much cattail and bull-rush and some cord grass and lots of duck potato, wiggion grass, cowtail, and other food plants.

There are a good many muskrats but the trappers are not getting many of this season is nearly over. Two weeks more and the trappers are keeping out it to the end.

No ducks seen when I was
but Arthur found great numbers
along the outer slopes and shot
about a dozen; mostly
shovelers & teal. Said they
were all mostly in pairs.
There is occasional duck pond
but the ducks are out where
the seeds are deposited
on the mud flats.

Marsh rabbits are
exceedingly numerous and
feeding on cattails, alligator
grass, other grasses, sedges,
thistles, and willow bark.
They are rather small and
very dark and richly colored.

One large *Oryzomys*
seen that had been caught
by the cat.

Johnson Bayou. Mouth of Miss. R.
Jan. 28-29. 1926.

Odocoileus	a few
Opussum	"
Raccoon	"
Otter	rare
Mink	a few
Weasels	none
Musk rats	abundant
Orizomys	"
Marsh rabbits	"

Jan. 31

Found one muskrat in my live trap but it was only half grown and had died of cold during the night. The other traps not disturbed.

Started up the river at about 8 AM and reached New Orleans at 7 PM., a long but pleasant, comfortable and interesting day.

Skinned and salted 7 muskrats for specimens, and watched the shores of the ships go by.

Lots of big ocean liners, freighters and large oil tankers. One oil barge with six masts and an engine was the biggest thing I ever saw afloat. Some very nice yachts and fast boats seen.

A fierce thunderstorm at
daylight was soon over
and the rest of the day was
clear and pleasant.
The water came up a foot
or two and the river is full
of drifting logs and debris.
The current is swift in places
and whirls and eddies in
a savage and dangerous
manner. It is rather
muddy but not so muddy as
during flood time. The banks
are generally two to six feet
above the water and the lower
part of the bank six to ten feet
higher. Huge logs and stumps
are strewn along the banks as
well as in the stream and
even out over the big washes
are great logs and trees
lying half under water and mud.

Bought a fine del vale muskrat
for specimen, measured 530,
222; 81 mm. and weighed $2\frac{3}{4}$ lbs.

They all have very white and
silvery bellies here, quite
different from those farther west.

Feb. 1 - Worked on live traps
all day as fast as I could
making improvements and
changes and one new trap.
Warm and pleasant.

Feb. 2 - Took 10:30 AM
train for Lake Catherine
to test my live traps and
teach the man in charge of
the fur farm there to use them.
Raining in morning.

Cold and windy in PM.
Set 3 traps in evening but
the water is going down rapidly
in the marshes.

Saw pelicans and gulls
and terns and small birds.

Feb. 3. Only one trap sprung
and nothing in it. but the
trappers - 170 traps
did not get a rat, so
I am not discouraged.
Finished up our wet traps &
set four in better places with
the water down to near a
permanent level and have
strong hopes of getting rats
tonight.

Tramped over a lot of marsh
and found conditions different
from any of the other places, firm soil
and mostly "wire grass" (Spartina patens
juncea) for food and cover. In one
place there was a little Scirpus americanus
and robustus, but most of the sedges
were killed out by last year's dry
weather and salt water. In places
the rats eat the roots of Spartina
gleba, but are scarce in it.

Birds = Lake Catherine. ^{Feb. 1-6.}

Brown Pelican, a few.

Cormorant "

Herring gulls com

Royal terns 2

Forsters Tern a few.

Ducks - a few in pairs flying over.

Killdeer, com

Willits a few

Yellow legs "

Red backed Sandpipers a few

Least Sandpipers "

Jacks snipe "

Great Blue heron 1 caught in traps

Coot com.

Florida Gallinule 1 seen

Copper Rail 1 caught

Plover 1 seen

Marsh hawk com

Red tail a few

There are a few bullfrogs & cottails in places but none seen where the rats are. *Phragmites* is not abundant. The "sea cane", a succulent reed like grass, is abundant along the shores of canals in places and is said to be a favorite food of muskrats.

The ground where my traps are set was burnt over about four days ago and some of the houses burned in to the next channel. The rats seem to have left this burnt area although it has not been trapped until since the burn and only few rats caught.

Turkey Buzzard	com.
Fliters	a few
Kingfisher	"
Crows	"
Boat tail grackles	abundant
Red wings	"
Meadow lark	a few.
Robins	"
English sparrows	"
Seaside finches	"
Song sparrows	com.
Swamp sparrow	"
Ammodramus ?	"
Yellow palm Warbler	a few
Yellow rump warblers	com.
Phoebe	a few.

Feb. 4, Not a rat came near any of my four traps, all on recently burnt ground, so I shall move them to grass land where rats walked last night.

Photographed rat houses & warth.

Talked with two trappers on north side of track where they have trapped a section of land & caught 1300 rats this season. They say the rats are getting scarce & only 9 were caught in 280 traps this morning.

Of 20 females examined none had embryos & the men say they have not seen any yet this year in skinning several hundred.

Feb. 5, Caught nothing but one rat
ate some cat tail bait behind the
trap - Reset traps more carefully.
Beautiful day.

Feb. 6. Caught nothing

Went to Bay St. Louis & back and
saw numerous houses in marshes along
the railroad to about 6 or 8 miles west
of Bay St. Louis. There seem to be
none nears but a man here tells
me there are quite a lot of rats in
marshes just west of Passagula,
Miss. and near Gautier, the next station
west.

Found Bay St. Louis larger and
much more attractive than when I was
there in 1893, about 3000 people
with nice houses along the water
front, beautiful live oaks, magnolias,
cedars and sycamores, fine sandy
beaches, good woods retreats,
beautiful pine and oak woods back of town.

Feb. 7. Sunday, Went to
New Orleans for mail and a bath
and clean clothes.

Feb. 8 - Got materials for a couple
of new kind of traps, and
examined about 15 heads and
100 birds of Louisiana deer
at Lord Stumpf's, the taxidermist
at 2224, Jackson St.

It seems that there are 3
good forms of deer in Louisiana,
O. assecula, least of the Miss. R.
O. louisiana from the swamps
west of the Miss. R., a little
red deer with narrow horns
in the coast marshes west of
the river. Then texensis
seems to come into the western
part of the state and it is
probable that true virginiana
comes into the N.E. part.

Feb. 9. Back to Lake Catherine
when I find my traps caught
one nice muskrat yesterday of
two more traps were sprung, so
I am greatly encouraged.
Reset the traps.

Warm & pleasant.

Feb. 10. Worked all day making two
new kind of traps with cog tops
and tin bottoms. Set them in
marsh & reset the others.

Warm & pleasant.

Feb. 11. One of my new traps
had a muskrat in it, alive &
well & not injured.

Photographed it & sent the
~~Feb. 12~~ two rats to Sohier.
Caught nothing in other
traps.

Colder, a little frost in
evening.

Feb. 12. Found another nice
big female muskrat in the same
trap and feel so sure those
will catch them readily that
I went in to New Orleans
and caught a 5 PM train
for home. Will perfect this
trap and send back good
samples to my other boys.
Had a long talk with Mr.
Stanley Arthur and Dr. Loran
at Cedarvale Camp.
A warm day.

Feb. 13, Atlanta Georgia to
Dumville Virginia.
Raining & mild. No snow.

Feb. 14, Arrived Washington
3 AM but did not leave to
get up until 7:20 AM.
Found snow on the ground
and cool weather but mild
and raining.

Handwritten notes in cursive script, mostly illegible due to fading. The text appears to be organized into several paragraphs or sections, with some lines starting with capital letters. The ink is dark but significantly faded, especially in the lower half of the page.

Continuation of handwritten notes in cursive script on the lower page. The text is also mostly illegible due to fading. The handwriting is consistent with the upper page, suggesting a single author. The page is lined with horizontal blue lines.

The Muskrat : John Cotherin, Esq.

Musquash should be adopted for the name of this interesting fur-bearing for it is no rat and in no way rat-like. A native of North America only it has no near relative in other countries, its nearest being the "meadow mice" or "voles".

In size it is larger than a rat, adults weighing 2 to 3 lbs. In form heavy and compact with short ^{stems} neck and legs and a long, ~~snout~~ ^{snout} like, laterally compressed tail, thin haired and minutely scaled. The hind feet are ^{directly} ~~long~~ ^{long}, broad and paddle shaped, not webbed but with sides of feet and toes ^{strongly} margined with close rows of stiff bristles ~~and~~ that spread in the water and probably add more swimming surface than would be gained by webbs.

The eels are ^{usually} naked, serrulate and scutellate with 4 to 6 isolated and rather somewhat irregular black tubercles. The ^{of the five longest} nails are long, ~~not~~ channelled beneath and straightish for climbing muddy banks and digging, ~~and~~ swimming and walking on floating grasses.

The front feet are small and hand like, adapted to holding and handling food, walking and digging, with four long fingers and a ^{very} short thumb ~~nailed~~. The nails are well channelled and slightly curved and with the fingers can grasp firmly against the firm, five ^{naked} tuberculate palm. The ^{opposing} fingers are white and the fingers below cross serrulate with black. All of the feet, like the tail, are thinly ^{above} covered with short stiff hairs. The ^{small} nose pad, including both nostrils, is naked and smooth but the rest of the body, including the ears, is

densely covered with fine soft fur, well protected by long, glistening guard hairs, longest and most glistening on the backs.

There are ^{tufts of} long, spreading mustaches from the sides of the upper lips. Three long eyebrows and three long stiff chin whiskers but no trace of eyelashes to guard the little bead-like eyes. The lips are fur lined and the mouth closes vertically as well as laterally both of the prominent and externally conspicuous orange colored incisors. The tongue is thick and fleshy, well filling the mouth between the molar series. The anus and urogenital organs ~~open~~ are located in the furry part of the post abdominal region and the two ~~series~~ are strikingly similar in superficial appearance.

Except in time of breeding activity the vagina of the female is closed and sealed while the anterior urinary penis^{tube} of the female closely resembles the same organ of the male. Only by pressure can the vagina be opened to positively determine the sex and even this is sometimes difficult. The penis of adult males contains a short bone, scarcely a quarter of an inch long, terminating in a trilobate cartilage, folded within the tip of the penis but with pressure well adapted to breaking open the closed hymen of the female.

In color dark brown with black guard hairs over the upper parts; sides yellow brown; lower parts silvery buff, lightest on throat and with a blackish spin stripe; feet and tails ^{mainly} ~~generally~~ plumbeous or sooty gray. eyes black; incisors orange; nails pink.

Some local variations across the state of Louisiana will have to be worked out with all of the specimens together.

The ^{malpighian} ~~malpighian~~ glands are a pair of ~~sack-shaped~~, whitish, fleshy glands lying just under the skin of the belly in front of and attached to the sides of the penis by the narrow posterior tips, which apparently open into the penial orifice.



They do not contain a waxy deposit as in the beaver but hold in small cavities a powerfully musky fluid, at times ~~very~~ abundant and strong and at other times or ages or conditions scarcely noticeable. In the females the glands are smaller and less musky.

The mammae of this southern muskrat are normally 2 pairs of preal and two of inguinal or four elongated mammary glands. In a few instances, about one in 20 or 30 females, there is a supernumerary post preal pair of mammae.

The young of adult females are regularly 4 in number, less in immature females and rarely 5 or 6 in abnormal cases.

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6-1035

Fiber, Bowen Camp, Canyon E.
Jan 8, 24, 29,
♀ 574, 286, 84, 18, A.

♀ 560, 230, 80, 19, B.

♀ 560, 222, 81, 18, C.
No embryos. all full grown.
and fat. stomachs full of 30-40

15
30
450